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August 4, 2005

**Ex Parte**

Marlene H. Dortch  
Secretary  
Federal Communications Commission  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

**Re: In the Matter of Petition for Waiver of Pricing Flexibility Rules for Fast Packet Services; Petition for Forbearance Under 47 U.S.C. Section 160 (c) from Pricing Flexibility Rules for Fast Packet Services, WC Docket No. 04-246**

Dear Ms. Dortch:

This letter provides responses to a staff request for additional information regarding the services addressed in the above-referenced petitions. The attached documents contain the staff questions and the corresponding responses.

Please don't hesitate to contact me with any questions you may have. Thank you.

Sincerely,

A handwritten signature in black ink, appearing to read "Joseph Mulieri".

Attachments

cc: Tom Navin  
Tamara Preiss  
Judy Nitsche  
Margaret Dailey  
Marvin Sacks  
Richard Kwiatkowski

## **VERIZON RESPONSES TO FCC'S 7-15-05 DATA REQUEST ON ADVANCED SERVICES**

**First, with respect to the region from which Verizon derives the most revenue, for each service identified in Verizon's June 8, 2005 ex parte (e.g., Frame Relay Service, Part I, Section 5.1 Frame Relay Service (North)), please diagram how Verizon (either Verizon ILEC or Verizon Long Distance) provides the service to an end-user between two (interLATA, in-region) locations. In these diagrams:**

**1. Show all parts of the network (e.g., show channel terminations (or equivalent) to the end-user and POP, inter-office transport facilities, central office, port, ATM/Frame Relay switches, long distance facilities, etc.) and who owns each part (e.g., Verizon ILEC, Verizon Long Distance, an IXC, etc).**

Please see Attachment B, Pages 1 through 3, which depict the network diagrams for each of the following services:

ATM  
Frame  
IP-VPN  
TLS / National TLS

The remainder of the services identified in Verizon's June 8, 2005 ex parte are either variations of those identified in the response above (e.g. bandwidth, term, etc.) or are grandfathered. Attachment A provides a list of all services and rate elements associated with the ex parte. The rate elements are aggregated by those that have an end user channel termination component and those that do not (all other).

**2. What are the rate elements of each service? Identify the assets, activities (e.g., labor), and functions Verizon provides with respect to each rate element.**

Following is the requested information for the non-grandfathered services.

**Frame Relay**

<b>Rate Element</b>	<b>Description</b>
UNI Port with Access Line Connection	UNI Port with Access Line Connection consists of a digital facility (56k through 45M) from the Customer premise to the FRS network via a port interface. The UNI Port with Access Line Connection also includes the interoffice transport from a customer's Local Serving Office (LSO) to the FRS Serving Office (FSO) if required.
UNI Port Only Connection	UNI Port Only Connection is a port interface at a FRS switch. Port Connection speeds are provided at 56k through 45M. UNI Port Only Connections do not include transport. Customers may access Port Only Connections via Verizon provided digital access facilities or any other carrier's facilities.
56 Kbps Rate Stability Plan	Found only in the former Bell Atlantic region, the 56 Kbps Rate Stability Plan is an option that allows customers who subscribe to 300 or more 56 Kbps FRS UNI Port with Access Line Connections the option of guaranteeing the rate-stability of their monthly and nonrecurring rates for 3 or 5 years.
56 Kbps Term & Volume Plan	Found only in the former Bell Atlantic region, the 56 Kbps Term & Volume plan is an option which allows customers who subscribe to 300 or more 56 Kbps FRS UNI Port with Access Line Connections to receive an additional 10% off the 3 year tariff rates
Enterprise UNI Port Only Connection:	The Enterprise UNI Port Only Connection is the FRS port interface that provides a connection to Verizon Enterprise facilities. Enterprise facilities are limited to the greater New York City area.

NNI Port Only Connection	Network-to-Network (NNI) Port Only Connection is the port used to connect Verizon's FRS network to an inter-exchange carrier's FRS Network. The NNI Port Only Connection does not include transport to the customer's premise. Such transport, if required, must be ordered separately either from Verizon or another carrier.
Standard PVC Committed Information Rate	Standard PVC (Permanent Virtual Circuit) Committed Information Rate (CIR) is the sustained throughput rate chosen by a customer when connecting one FRS location to another via a FRS Permanent Virtual Circuit.
FRASI PVC Committed Information Rate	FRASI PVC Committed Information Rate is the sustained throughput rate chosen by a customer when connecting one FRS location to an ATM location other via a FRASI Permanent Virtual Circuit.
FRS PVC	FRS Permanent Virtual Circuit is the FRS switch software-based mapping used to connect one FRS location to another FRS location.
Administrative Charge	Administrative Charges apply when a customer requests a change in the CIR value associated with a Permanent Virtual Circuit or when a customer requests an upgrade in bandwidth from a fractional DS1, DS3 to a full DS1, DS3. These charges are applied on a nonrecurring basis.
Backup UNI Activation	Backup UNI is an optional feature that allows a FRS customer to build alternate PVC mapping in the event their Primary UNI is not operable. A customer needs to contact Verizon to activate the Backup UNI. A one-time charge applies per activation.

Southern Corridor PVC	The Southern Corridor Option provides UNI subscribers (UNI Port With Access Line Connection and UNI Port Only Connection subscribers) in the Pennsylvania - New Jersey Corridor the ability to connect a PVC at a specified CIR between the Philadelphia, Pennsylvania and New Jersey wire centers.
Customer Service Management	FRS Customer Service Management (CSM) is a value-added optional feature that provides Customers with web-based reports. These reports give the Customer the ability to extract “read-only” network traffic information regarding their networks thereby allowing Customers to monitor and manage their network performance.
Interzone Transport	Found only in the former GTE region, Interzone Transport provides the mapping of a Frame Relay Intrazone PVC across one or more Frame Relay zone boundaries within a state.

## ATM

Rate Element	Description
UNI Port with Access Line Connection	ATM-Cell Relay Service (CRS) is comprised of an interface, User Network Interface (UNI) at the ATM switch and a transport facility that terminates on compatible customer premises equipment (CPE). These UNI Access Connections are connected via Permanent Virtual Circuits (PVCs) using Asynchronous Transfer Mode technology over Verizon's fast packet network.
UNI IMA Port with Access Line Connection	UNIs are also provisioned as an Inverse Multiplexing ATM (IMA) Port With Access Line connection as defined above.
IISP (Interim Inter-switch Signaling Protocol) Port with Access Line Connection	The IISP Port with Access Line Connection, which is essentially equivalent to the UNI, provides a link from an Inter-exchange Carrier or another customer's network to one of Verizon's ATM CRS hubs.
UNI Port Only Connection	User Network Interface (UNI) Access Connection: a dedicated digital transmission facility that provides a connection from the customer's premises to a UNI on a XA ATM-CRS switch. The effective maximum data rate for these services is DS1 (1.54 Megabits per second), DS3 (45 Mbps), or OC3c (155 Mbps).
IISP Port Only Connection	The IISP Port Connection provides to an appropriate Collocated Interconnection Service (CIS) cross-connect within a wire center.
PVC/SVC	Permanent Virtual Connection (PVC)/ Switched Virtual Circuits (SVCs): a Cell Relay Service used to provide a virtual connection between two customer locations. The PVC defines a path across the UNI Access Connection between the customer premises and Verizon's ATM switch. Each UNI Access Connection requires at least one PVC. The path is set up by Verizon based on information contained on a service order rather than by dial-up signaling.

Effective Bandwidths for Incremental UNIs	<p>Effective bandwidth is the bandwidth reserved for each logical connection (Permanent Virtual Circuit or Switched Virtual Circuit) that is set up across a UNI or IISP. Effective bandwidth is consumed in varying degrees based on the class of service parameters selected. The higher the class of service, the more bandwidth will be reserved. A CBR (Constant Bit Rate) PVC with the same Peak Cell Rate as a VBR (Variable Bit Rate) PVC will reserve more effective bandwidth.</p>
Administrative Charge	<p>A nonrecurring charge applies (per order, per UNI or IISP) when a customer initiates a change to one or more of the following: UNI or IISP bandwidth, PVCs, class of service parameters, and/or other service parameters that do not require changes in physical facilities and that can be provisioned without the dispatch of a technician to the customer location.</p>
Closed User Groups	<p>Closed User Group (CUG) capability is a feature associated with SVCs. A CUG provides the ability to contain SVC calls between certain User Network Interfaces (UNIs) or IISPs. A CUG functionally groups UNIs/IISPs into logical associations and allows calling privileges to be specified network wide. A CUG provides a network-wide mechanism for access control. CUGs provide a logical grouping of UNIs/IISPs, creating an SVC community of interest.</p>

## **IP-VPN**

<b>Rate Element</b>	<b>Description</b>
Internet Protocol Virtual Connection: Basic (i-VC)	An i-VC consists of a virtual connection from one of the access facilities into the Internet Protocol – Virtual Private Networking (IP-VPN) network where it can connect to one or more other i-VCs. The i-VCs use routing technology that provides fully meshed connectivity to each location in the Customer's IP-VPN network without requiring a pre-defined Permanent Virtual Circuit for all possible paths. Basic i-VCs are offered on a Non Prioritized basis.
Internet Protocol Virtual Connection: Premier (i-VC)	An i-VC consists of a virtual connection from one of the access facilities into the Internet Protocol – Virtual Private Networking (IP-VPN) network where it can connect to one or more other i-VCs. The i-VCs use routing technology that provides fully meshed connectivity to each location in the Customer's IP-VPN network without requiring a pre-defined Permanent Virtual Circuit for all possible paths. Premier i-VCs are offered with Quality of Service (QoS) enablement.
Dedicated UNI Port Only	Dedicated UNI Port Only Connection provides an IP- VPN port connection that is dedicated to the Customer. Dedicated UNI Port Only Connections are available with Point-to-Point Protocol (PPP) and High Level Data Control (HDLC) protocol for use with i-VCs.
Dedicated UNI Port With Access Line	A digital UNI Port With Access Line Connection provides a digital or optical facility from the Customer – designated premises to Verizon's IP-VPN network and includes a dedicated port connection on Verizon's IP-VPN network. Dedicated UNI Port With Access Line Connections are available with Point-to-Point Protocol (PPP), High Level Data Link Control (HDLC) protocol and Multilink Point-to-Point Protocol.
IP Port	The IP Port is a traffic aggregation point on Verizon's IP network for both IP-VPN Service and National TLS Service. Customer may aggregate traffic from service(s) offered by Verizon.



Administrative Change Charge	A nonrecurring charge applies per order when a customer initiates a change to one or more of the following: when a Customer requests a provisioning due date that is later than the original provisioning due date provided by Verizon; when a Customer cancels an order which is already in progress; when a customer upgrades or replaces service in selected situations; when an i-VC is moved at Customer's request and/or other service parameters that do not require changes in physical facilities and that can be provisioned without the dispatch of a technician to the customer location.
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## **TLS and National TLS**

<b>Rate Element</b>	<b>Description</b>
UNI Port with Access Line Connection	Provides connectivity between the Customer premises and the serving wire center.
NNI Port Only	Provides a port interface connection from an Inter-exchange carrier's network or other service provider's point of presence to one of Verizon's TLS switches.
Ethernet TLS Ethernet Virtual Circuit (EVC)	Provides an Ethernet point-to-point virtual connection between Customer locations and can only be purchased with the UNI Port with Access Line Connection.
Interoffice Mileage, per line	If Customer's normal serving wire center is not equipped with TLS equipment, Customer may obtain service from a TLS equipped wire center by ordering interoffice mileage.
Domain/Ethernet TLS EVC/LAN Extension	A domain change is the reassignment of Customer's computer data to different virtual LAN, at Customer's request. The change is accomplished via software changes in Verizon's database.
Equipment Changes	LAN extension equipment changes, other than for maintenance or repair, involve the physical replacement of Verizon-provided network interface on an existing TLS access line, at the same location on Customer's premises.
Customer Service Management	CSM is an optional feature that provides Customers with web-based reports. The reports give the Customer the ability to extract "read-only" network traffic information, enabling them to monitor and manage their network performance.
National TLS Ethernet Virtual Circuits (EVC)	The National TLS EVC provides a point-to-point virtual connection from Ethernet TLS into the National TLS

	Network where it physically connects to an IP Port on Verizon's network.
National TLS EVC Expedite Charge	Verizon offers an expedite capability on National TLS EVCs but does not guarantee that every request will be accepted or expedited per the requested time.
National TLS IP Port	Please refer to the IP-VPN rate elements
National TLS EVC Administrative Charge	<p>This charge applies:</p> <ul style="list-style-type: none"> <li>- When a Customer requests a later provisioning due date</li> <li>- When a Customer cancels an order which is already in progress</li> <li>- When a Customer upgrades service</li> <li>- When a National TLS EVC is remapped at Customer's request</li> </ul>

**3. For each service, what is the rate for each applicable rate element and where (tariff number and page) is each such rate found?**

Following is the requested information for the non-grandfathered services.

**Frame Relay**

Frame relay services and rate elements are available in various bandwidth and term commitments. Following is the requested information associated with DS1-level capacity and 5-year term plans.

<b>Rate Element</b>	<b>Rate</b>	<b>Tariff Section</b>	<b>Customer</b>
UNI Port with Access Line Connection	\$371.44	FCC #20, Part I, Section 5.1.5.A.1 Page 8 <sup>th</sup> rev 5-11.	End User Customer or Carrier
UNI Port Only Connection	\$294.61	FCC #20, Part I, Section 5.1.5.A.2 Page 2 <sup>nd</sup> rev 5.12.1	End User Customer or Carrier
Enterprise UNI Port Only Connection	\$491.01	FCC #20, Part I, Section 5.1.5.A.3 Page 5 <sup>th</sup> rev 5-13.2	End User Customer or Carrier
NNI Port Only Connection	\$491.01	FCC #20, Part I, Section 5.1.5.A.4 Page 7 <sup>th</sup> rev 5-14	End User Customer or Carrier
Standard PVC CIR (128 Kbps)	\$5.00	FCC #20, Part I, Section 5.1.5.B Page 5 <sup>th</sup> rev 5-15	End User Customer or Carrier
FRASI PVC CIR (128 Kbps)	\$5.00	FCC #20, Part I, Section 5.1.5.C Page 3 <sup>rd</sup> rev 5-15.1	End User Customer or Carrier
Administrative Charge	\$50.00	FCC #20, Part I, Section 5.1.5.D Page 5-15.2	End User Customer or Carrier
Backup UNI Activation	\$200.00	FCC #20, Part I, Section 5.1.5.E.4 Page 5-15.2	End User Customer or Carrier
Southern Corridor PVC (128 Kbps)	\$5.00	FCC #20, Part 1, Section 5.8.3.C Page 5 <sup>th</sup> rev 5-137	End User Customer or Carrier
Customer Service Management	\$150.00	FCC #20, Part I, Section 5.8.3.H Page 5 <sup>th</sup> rev 5-139	End User Customer or Carrier

Interzone Transport (128 Kbps)	\$70.00	FCC #20, Part II, Section 5.9.8 Page 14 <sup>th</sup> rev 5-650	End User Customer or Carrier
FRASI (128 Kbps)	\$5.00	FCC #20, Part I, Section 5.1.5.C Page 3 <sup>rd</sup> rev 5-15.1	End User Customer or Carrier

**ATM**

<b>Rate Element</b>	<b>Rate</b>	<b>Tariff Section</b>	<b>Customer</b>
UNI Port with Access Line Connection DS1 Tier 1 (0-5miles) 5-Year	\$525.00	FCC 20, Part I, Section 5.10.12(A)1 Page 2 <sup>nd</sup> rev 5-182	End user, Carrier
UNI IMA Port with Access Line Connection First DS1 Tier 1, Full 5-Year	\$669.91	FCC 20, Part I, Section 5.10.12(B)1 Page 1 <sup>st</sup> rev 5-186.1	End user, Carrier
IISP Port with Access Line Connection Tier 1 DS1, Full, 5-Year	\$525.00	FCC 20, Part I, Section 5.10.12(C)1 Page 2 <sup>nd</sup> rev 5-187.1	End user, Carrier
UNI Port Only Connection DS1, Full, 5-Year	\$312.00	FCC 20, Part I, Section 5.10.12(D)1 Page 3 <sup>rd</sup> rev 5-189	End user, Carrier
IISP Port Only Connection DS1, Full, 5-Year	\$312.00	FCC 20, Part I, Section 5.10.12(E)1 Page 3 <sup>rd</sup> rev 5-191	End user, Carrier
PVC/SVC	\$75.00	FCC 20, Part I, Section 5.10.12(F)2 Page 4 <sup>th</sup> rev 5-193	End user, Carrier
Closed User Groups (NRC)	\$75.00	FCC 20, Part I, Section 5.10.12(G) Page 3 <sup>rd</sup> rev 5-194	End user, Carrier

**IP-VPN (5-Year Term for DS-1 in NY unless otherwise noted)**

<b>Rate Element</b>	<b>Rate</b>	<b>Tariff Section</b>	<b>Customer</b>
Internet Protocol Virtual Connection: Basic (i-VC)	\$ 27.00	FCC #20, Part I, Section 5.12.9.C.1 Page 5-243.20.1	End User Customer or Carrier
Internet Protocol Virtual Connection: Premier (i-VC)	\$ 38.00	FCC #20, Part I, Section 5.12.9.C.2 Page 5-243.22.1	End User Customer or Carrier
Dedicated UNI Port Only	\$ 140.00	FCC #20, Part I, Section 5.12.9.B.1 Page 5-243.19.5	End User Customer or Carrier
Dedicated UNI Port With Access Line (PPP or HDLC protocol)	\$ 400.00	FCC #20, Part I, Section 5.12.9.A.1 Page 5-243.19.2	End User Customer or Carrier
IP Port: OC-12c (3-Year)	\$ 4000.00	FCC #20, Part I, Section 5.12.9.D Page 1 <sup>st</sup> rev 5-243.28	Carrier
IP Port: OC-12c Activation - NRC	\$ 500.00	FCC #20, Part I, Section 5.12.9.D Page 1 <sup>st</sup> rev 5-243.28	Carrier
IP Port: OC-48c (3-Year)	\$ 8000.00	FCC #20, Part I, Section 5.12.9.D Page 1 <sup>st</sup> rev 5-243.28	Carrier
IP Port: OC-48c Activation - NRC	\$ 1000.00	FCC #20, Part I, Section 5.12.9.D Page 1 <sup>st</sup> rev 5-243.28	Carrier
Administrative Change Charge	\$200.00	FCC #20, Part I, Section 5.12.9.E Page 1 <sup>st</sup> rev 5-243.28	End User Customer or Carrier

### **TLS and National TLS**

<b>Rate Element</b>	<b>Rate</b>	<b>Tariff Section</b>	<b>Customer</b>
UNI Port with Access Line Connection (1000M)	\$3,200	FCC 20, Part I, Section 5.3(F)(1)(c) Page 3rd rev 5-40.1	End User or Carrier
NNI Port Only (1000M)	\$3,500	FCC 20, Part I, Section 5.3(F)(2)(b) Page 3rd rev 5-40.1	Carrier
Ethernet TLS Ethernet Virtual Circuit (100M)	\$100	FCC 20, Part I, Section 5.3(F)(3) Page 3rd rev 5-40.1	End User or Carrier
Interoffice Mileage, per line	\$100	FCC 20, Part I, Section 5.3(F)(4) Page 1 <sup>st</sup> rev 5-40.1.1	End User or Carrier
Domain/Ethernet TLS EVC/LAN Extension Equipment Changes	\$200 NRC only	FCC 20, Part I, Section 5.3(F)(5) Page 1 <sup>st</sup> rev 5-40.1.1	End User or Carrier
Customer Service Management	\$150	FCC 20, Part I, Section 5.3(F)(6) Page 1 <sup>st</sup> rev 5-40.1.1	End User or Carrier
National TLS Ethernet Virtual Circuits (EVC) 50M EVC at 3 yr term	\$800	FCC 20, Part I, Section 5.3(F)(7)(c) Page 4 <sup>th</sup> rev 5-40.3	End User or Carrier
National TLS EVC Expedite Charge	\$250 NRC only	FCC 20, Part I, Section 5.3(F)(9) Page 4 <sup>th</sup> rev 5-40.3	End User or Carrier
National TLS EVC Administrative Change	\$200 NRC only	FCC 20, Part I, Section 5.3(F)(8) Page 4 <sup>th</sup> rev 5-40.3	End User or Carrier
National TLS IP Port	Please See IP Port under IP-VPN		



**4. What entity buys each rate element (e.g., Verizon Long Distance, the end user, etc.)?**

Please see responses to number 3 above. Where “Carrier” is noted as a purchaser, that would include Verizon Long Distance as well as other interexchange carriers or entities.

**5. Please provide a list of access services that AT&T purchases from Verizon to provide services comparable to the Verizon services identified in the ex parte.**

Wholesale customers, such as AT&T, can provision advanced services to their end user customers through a variety of means. The wholesale customer's options include:

- Ordering the advanced services directly from Verizon
- Ordering special access transport from Verizon and self-provisioning any necessary CPE and packet switching
- Ordering transport from another provider and self-provisioning any necessary CPE and packet switching
- Self-provisioning transport and any necessary CPE and packet switching

Verizon is aware that competitors are providing services comparable to those it has identified in its petition and ex partes based on its experience competing for customers. However, Verizon cannot determine when a carrier is using special access to provision advanced services or for other purposes. To Verizon, the special access supporting advanced services is typically indistinguishable from any other data circuit.

In addition, there are a multitude of ways to provision special access. Since Verizon has no specific knowledge of which circuits are used to provide advanced services by its customers, Verizon can only speculate based on technological capabilities and pricing designs on the approach a carrier may deploy when utilizing special access to provision frame relay, ATM, TLS or IP-VPN service.

The most basic hypothetical approach, but not necessarily the most cost efficient approach, is for the carrier to provide the same bandwidth service from the end-user premise to the carrier's POP location. For example, a carrier can order a DS1 from the end user premise to the serving wire center (SWC) and extend that DS1 at this same bandwidth to the POP. (Please see Pricing Example diagrams included in Attachment B pages 4-8).

A more cost effective approach could be for the carrier to multiplex the DS1 service to a higher bandwidth service somewhere in the network path. The number of times the service is multiplexed to a higher bandwidth and the exact approach taken will depend upon the carrier's existing network and the utilization of all services in a given geographical location. The network planning for establishing the network design is the responsibility of the carrier.

The following chart summarizes the number of Verizon special access service and pricing options available to carriers. In addition to the Verizon services, carriers may also self provision or purchase arrangements from a variety of alternate providers such as CLECs, other IXC's, or broadband providers.

Verizon Access Options		
End User to Serving Wire Center	Serving Wire Center to Serving Wire Center (IOF)	Serving Wire Center to Carrier PoP
DS0/DDS	DS0/DDS, Fractional DS1, DS1, DS3, OC3, OC12	DS0/DDS, Fractional DS1, DS1, DS3, OC3, OC12
Fractional DS1	Capability to mux these services to a higher bandwidth service	Capability to mux services to a higher bandwidth service entrance facility (e.g. IEF, OHS)
DS1 - Special Access	Capability to place tail circuits onto a ring (e.g. IOTS, IDSR)	Capability to place circuits onto a ring entrance facility (e.g. IOTS, IDSR)
DS3 - Special Access	Capability to terminate in a collocation cage in the Serving Wire Center	
OC3		
OC12		
<b>Conclusion: Carriers have a multitude of special access services available from Verizon which can be combined to support their network needs for provisioning advanced services. Verizon can only speculate on the manner in which the carrier will combine these multiple options since Verizon has no knowledge of which special access services are ultimately providing higher layer services to the carrier.</b>		
Verizon Pricing Options for Access Services		
Multiplexing - Access services can start at an end user premise at one bandwidth but be multiplexed at various locations within the network to ride on higher bandwidth services creating cost effective solutions for the carrier.		
Special Access Discount Plans - Carriers can enroll in discount plans available from Verizon to achieve greater cost efficiencies. Many discount plans allow for circuit portability.		
Term Plans - Combined with discount plans with circuit portability, carriers can request longer terms than the end user requests resulting in lower costs of access with limited financial exposure.		
<b>Conclusion: Verizon cannot determine the underlying carrier cost for special access services which support the carriers advanced services.</b>		

**6. Please diagram all parts of the Verizon network used to provide these services (e.g., show channel terminations (or equivalent) to the end-user and POP, inter-office transport facilities, central office.)**

Given the vast amount of possible combinations discussed in the response to number 5 above, Verizon hereby submits service, rate element and pricing information for only the basic and hypothetical option available to carriers.

Please refer to Attachment B pages 4 through 8 for the service diagrams.

**7. What are the rate elements of each service? Identify the assets, activities (e.g., labor), and functions Verizon provides with respect to each rate element.**

**FCC Tariff No. 1 and 11**

**Channel Termination:**

The Channel Termination rate category provides for the communications path between a customer's designated premises and the serving wire center of that premises or for the communications path within a building which connects a customer's facilities with a customer designated premises without routing through the serving wire center. One Channel Termination charge applies per customer designated premises at which the channel is terminated.

**Channel Mileage:**

The Channel Mileage rate elements provide for the transmission facilities between the serving wire centers associated with two customer designated premises, between a serving wire center and a Verizon Hub, between a serving wire center and a wire center where a connection to an advanced service occurs or between two Verizon Hubs. Channel Mileage rates are comprised of a fixed rate element and a per mile rate.

**FCC No. 14 and 16**

**SAL (Special Access Line):**

A Special Access Line (SAL) provides the transmission facilities to a Customer Designated Location (CDL) or the facilities between a CDL and the serving wire center. This rate element varies by type of capability and type of facility.

**Special Transport: (IOC Fixed)**

The Special Transport rate element provides for the transmission facilities between the serving wire centers associated with two CDLs, between a serving wire center associated with an end user's CDL and a WATS (Wide Area Telecommunications Service) Serving Office, between a serving wire center associated with a CDL and a Verizon Hub Wire Center or between two Verizon Hub Wire Centers. The Special Transport element is distance sensitive and varies with type of capability and type of facility.

**Special Transport Termination: (IOC Mileage)**

The Special Transport Termination rate element applies only to DS1, E1 Individual DS3 and System DS3 offerings and is in addition to the Special Transport rate element. One Special Transport Termination charge applies for the termination of each end of the Special Transport facility for E1, DS1, and DS3 offerings.

**8. For each service, what is the rate for each applicable rate element and where (tariff number and page) is each such rate found?**

Please refer to Attachment B pages 6, 7 and 8.

**Frame Relay**

**Service Components that include an EUCT (End User Channel Termination)**

--UNI Port w/ Access Line Connection

Part I Sec. 5.8, 5.1

Part II Sec. 5.9

--56 KBPS Rate Stability Plan

Part I Sec. 5.8

--56 KBPS Term and Volume Plan

Part I Sec. 5.1

**All Other Service Components**

--UNI Port Only Connection

Part I Sec. 5.8, 5.1

Part II Sec. 5.9

--Enterprise UNI Port Only Connection

Part I Sec. 5.1

--NNI Port Only Connection

Part I Sec. 5.8, 5.1

Part II Sec. 5.9

--Standard PVC Committed Information Rate

Part I Sec. 5.8, 5.1

Part II Sec. 5.9

--FRASI PVC Committed Information Rate

Part I Sec. 5.8, 5.1

--Administrative Charge

Part I Sec. 5.8, 5.1

Part II Sec. 5.9

--Backup UNI Activation

Part I Sec. 5.8, 5.1

Part II Sec. 5.9

## **ATTACHMENT A**

--Customer Service Management  
Part I Sec. 5.8

--Interzone Transport  
Part II 5.9

--FRASI:  
Part II Sec. 5.9



**ATM**

**Service Components that include an EUCT (End User Channel Termination)**

- UNI Port with Access Line Connection
  - Part I Sec. 5.10
  - Part II Sec. 5.10
- UNI IMA Port with Access Line Connection
  - Part I Sec. 5.10
  - Part II Sec. 5.10
- IISP Port with Access Line Connection
  - Part I Sec. 5.10
  - Part II Sec. 5.10

**All Other Service Components**

- UNI Port Only Connection
  - Part I Sec. 5.10
  - Part II Sec. 5.10
- IISP Port Only Connection
  - Part I Sec. 5.10
  - Part II Sec. 5.10
- PVC/SVC
  - Part I Sec. 5.10
  - Part II Sec. 5.10
- Effective Bandwidths for Incremental UNIs
  - Part I Sec. 5.10
  - Part II Sec. 5.10
- Administrative Charge
  - Part I Sec. 5.10
  - Part II Sec. 5.10
- Closed User Groups
  - Part I Sec. 5.10
  - Part II Sec. 5.10

**IP-VPN**

**Service Components that include an EUCT (End User Channel Termination)**

- Dedicated UNI Port With Access Line Connection
  - Part I Section 5.12
  - Part II Section 5.12

**All Other Service Components**

- Basic QoS i-VC
  - Part I Sec. 5.12
  - Part II Sec. 5.12
- Premier QoS i-VC
  - Part I Sec. 5.12
  - Part II Sec. 5.12
- IP Port
  - Part I Sec. 5.12
  - Part II Sec. 5.12
- Administrative Change Charge
  - Part I Sec. 5.12
  - Part II Sec. 5.12
- Dedicated UNI Port Only Connection
  - Part I Sec. 5.12
  - Part II Sec. 5.12

**TLS**

**Service Components that include an EUCT (End User Channel Termination)**

- UNI Port with Access Line Connection
  - Part I Sec. 5.3
  - Part II Sec. 5.11

**All Other Service Components**

- NNI Port Only
  - Part I Sec. 5.3
  - Part II Sec. 5.11
- Ethernet TLS Ethernet Virtual Circuit
  - Part I Sec. 5.3
- Interoffice Mileage, per line
  - Part I Sec. 5.3
  - Part II Sec. 5.11
- Domain/Ethernet TLS EVC/LAN Extension Equipment Changes
  - Part I Sec. 5.3
  - Part II Sec. 5.11
- Customer Service Mgmt
  - Part I Sec. 5.3
  - Part II Sec. 5.11
- National TLS Ethernet Virtual Circuits (EVC)
  - Part I Sec. 5.3
  - Part II Sec. 5.11
- National TLS Administrative Change Charge
  - Part I Sec. 5.3
  - Part II Sec. 5.11
- National TLS EVC Expedite Charge
  - Part I Sec. 5.3
  - Part II Sec. 5.11

## **ATTACHMENT A**

- National TLS IP Port (refer to IP-VPN)
  - Part I Sec. 5.3
  - Part II Sec. 5.11

**Grandfathered Services and Rate Elements**

**Frame Relay Services**

**Service Components that include an EUCT (End User Channel Termination)**

--UNI PORT W/ ACCESS LINE CONNECTION:  
Part II Sec. 5.2, 5.3

**All Other Service Components**

--UNI PORT ONLY CONNECTION:  
Part II Sec. 5.2, 5.3

--NNI PORT ONLY CONNECTION:  
Part II Sec. 5.2

--FRASI PVC Committed Information Rate:  
Part II Sec. 5.2

--FRS PVC  
Part II Sec. 5.2

--Additional Logical Channels  
Part I Sec. 5.1

--Committed Information Rate  
Part I Sec. 5.8, 5.1

--Group Address  
Part I Sec. 5.8

## **Switched Multi-Megabit Data**

### **Service Components that include an EUCT (End User Channel Termination)**

--SNI Access Port Connection  
Part I Sec. 5.7, 5.4

### **All Other Service Components**

--Carrier Interface Port Connection  
Part I Sec. 5.7

--Group Address  
Part I Sec. 5.7, 5.4

--Each Additional Address  
Part I Sec. 5.7, 5.4

--Connection Upgrade  
Part I Sec. 5.7, 5.4

--Admin Change  
Part I Sec. 5.7, 5.4

## **ATM Services**

### **Service Components that include an EUCT (End User Channel Termination)**

--UNI Port with Access Line Connection  
Part I Sec. 5.9

--Standard UNI  
Part I Sec. 5.6

--ATM Office Link  
Part II Sec. 5.5

--ATM Access Link  
Part II Sec. 5.5

### **All Other Service Components**

--IDSR UNI  
Part I Sec. 5.6

--Logical Channels  
Part I Sec. 5.6

--PVC/SVC  
Part I Sec. 5.9

--Effective Bandwidths for Incremental UNIs  
Part I Sec. 5.6, 5.9

-- UNI Port Only Connection  
Part II Sec. 5.5, 5.6

-- NNI Port Only Connection  
Part II Sec. 5.5, 5.6

--Administrative Charge  
Part I Sec. 5.9

--ATM Level of Service  
Part II Sec. 5.5, 5.6

## **ATTACHMENT A**

--PVP/PVP Activation  
Part II Sec. 5.5, 5.6



**Grandfathered High Capacity Broadband Access Cloud  
(HiBAC) Rates**

**Service Components that include an EUCT (End User Channel Termination)**

--Frame Relay UNI Port and Access Line  
Part II Sec. 5.4

--ATM UNI Port and Access Line  
Part II Sec. 5.4

**All Other Service Components**

--Broadband Access Point  
Part II Sec. 5.4

--Frame Relay UNI Port Only  
Part II Sec. 5.4

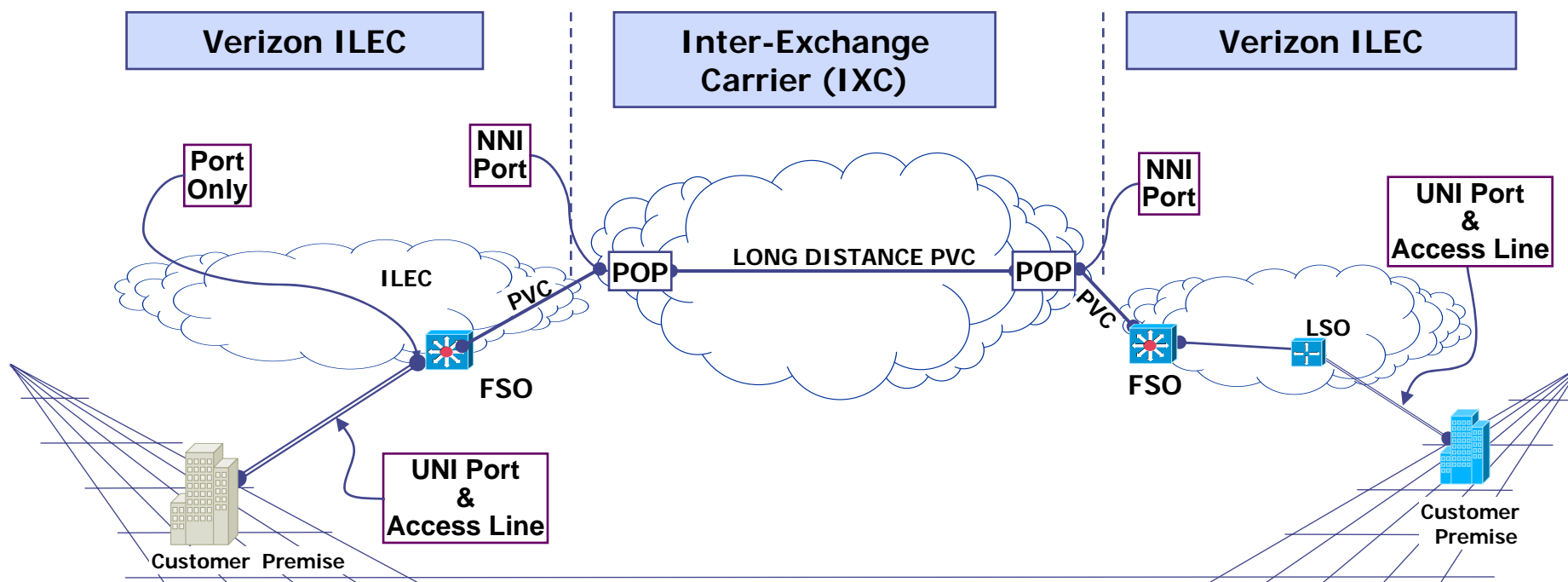
--ATM UNI Port Only  
Part II Sec. 5.4

--Frame Relay PVC  
Part II Sec. 5.4

--ATM PVC  
Part II Sec. 5.4



## Frame Relay and ATM Network Diagram

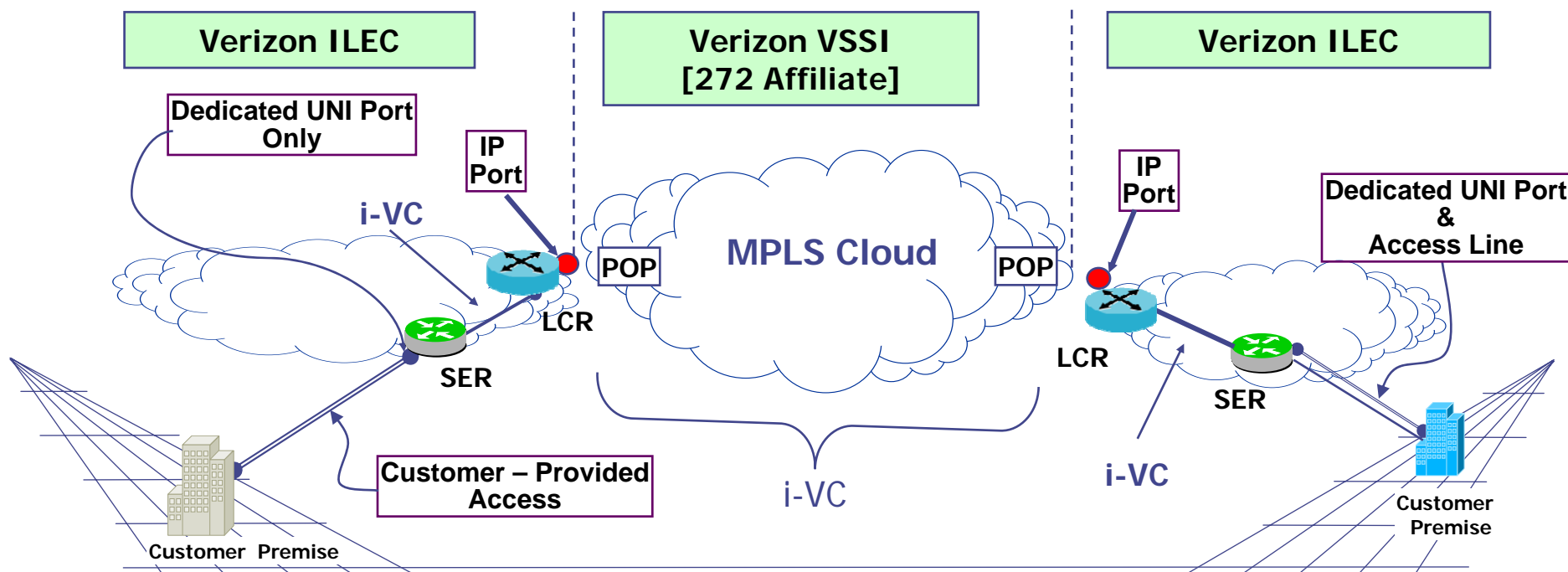


### Definitions:

LSO – Local Serving Office  
IOF – Inter-Office Facility  
FSO – Frame Relay/ATM Serving Office  
UNI – User to Network Interface  
NNI – Network to Network interface



## IP-VPN Network Diagram



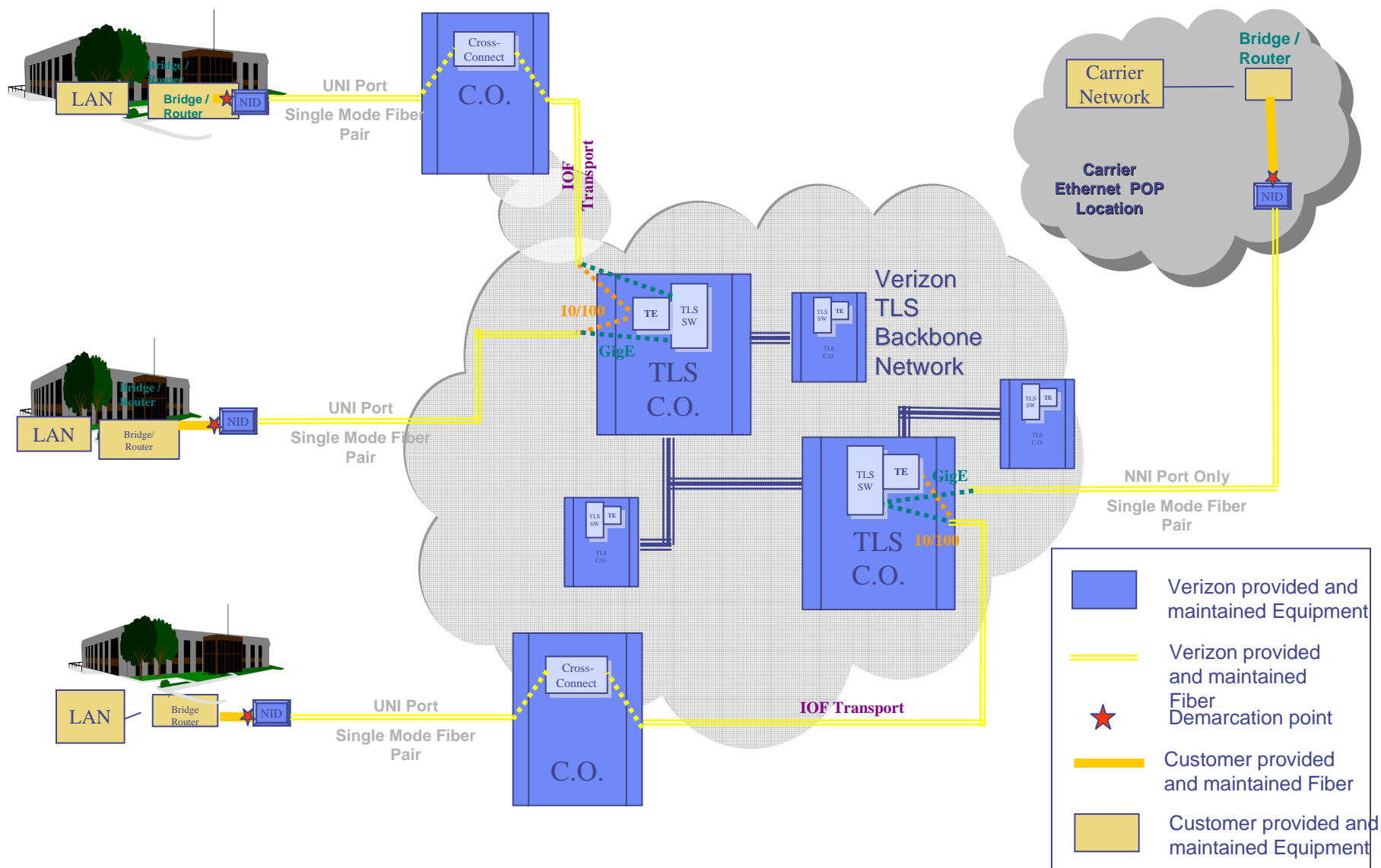
### Definitions:

- i-VC - Internet Protocol Virtual Connection
- UNI - User to Network Interface
- SER- Service Edge Router (Ingress Router)
- LCR - LATA Core Router (aggregation router)
- POP - Point Of Presence
- MPLS - Multiprotocol Label Switching



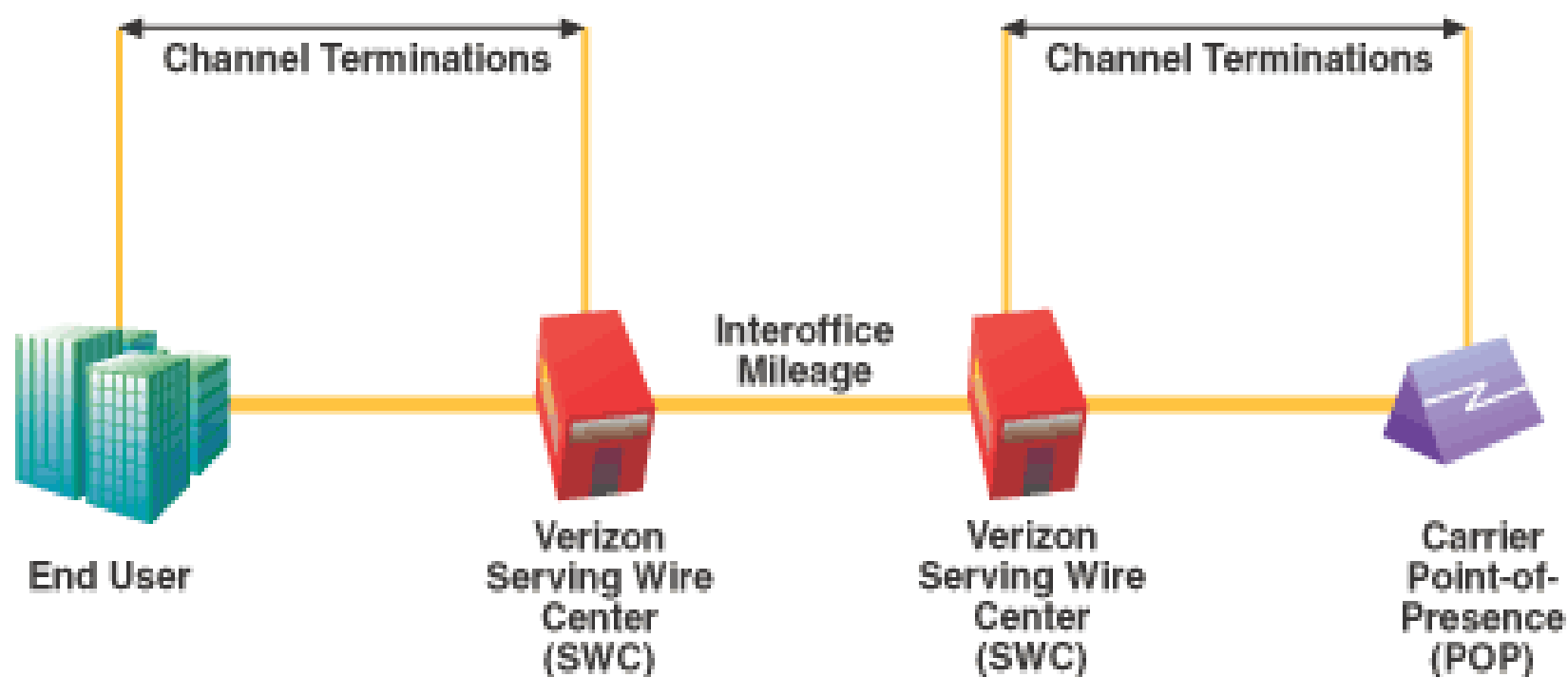
## TLS / National TLS Architecture

Attachment B  
Page 3



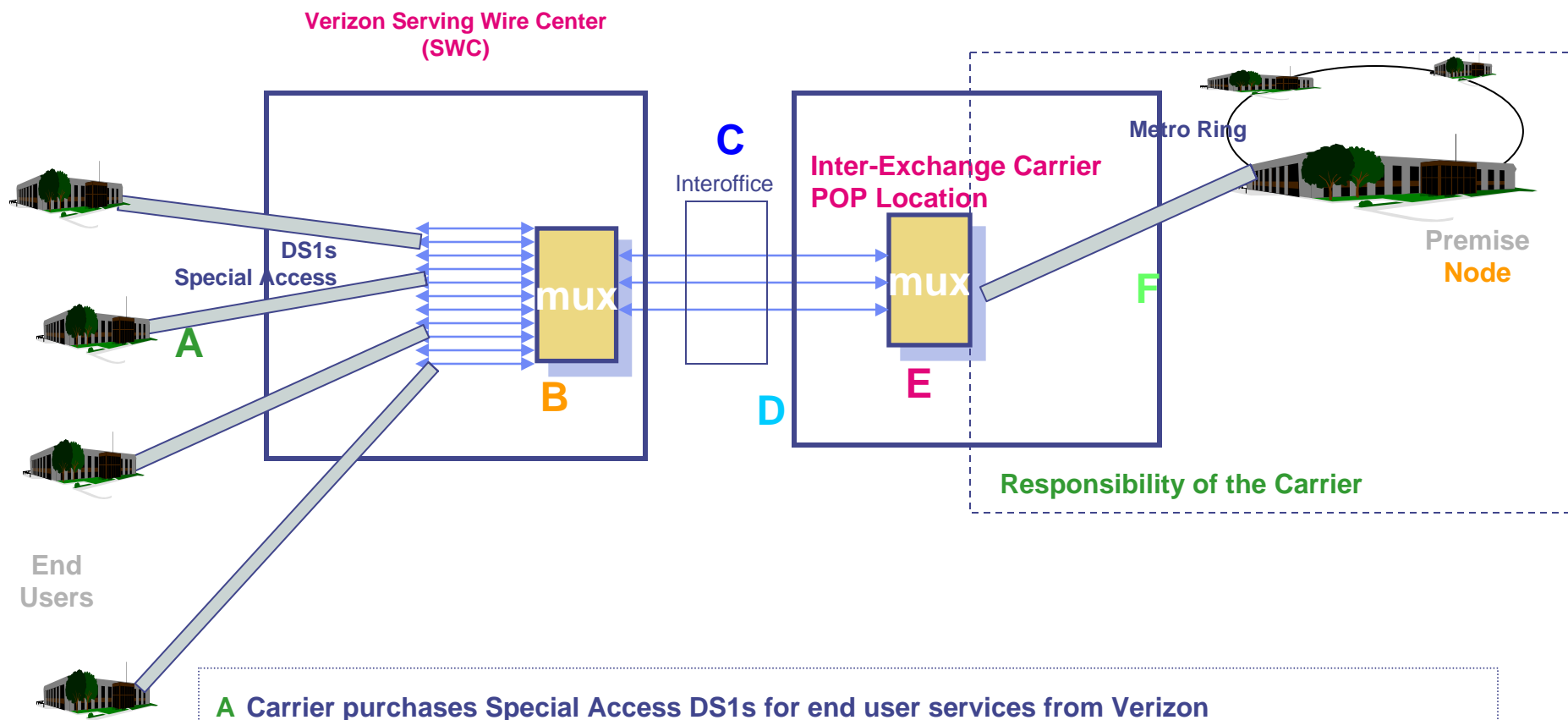
## Special Access Service Rate Element Description

### Point-to-Point Special Access Service





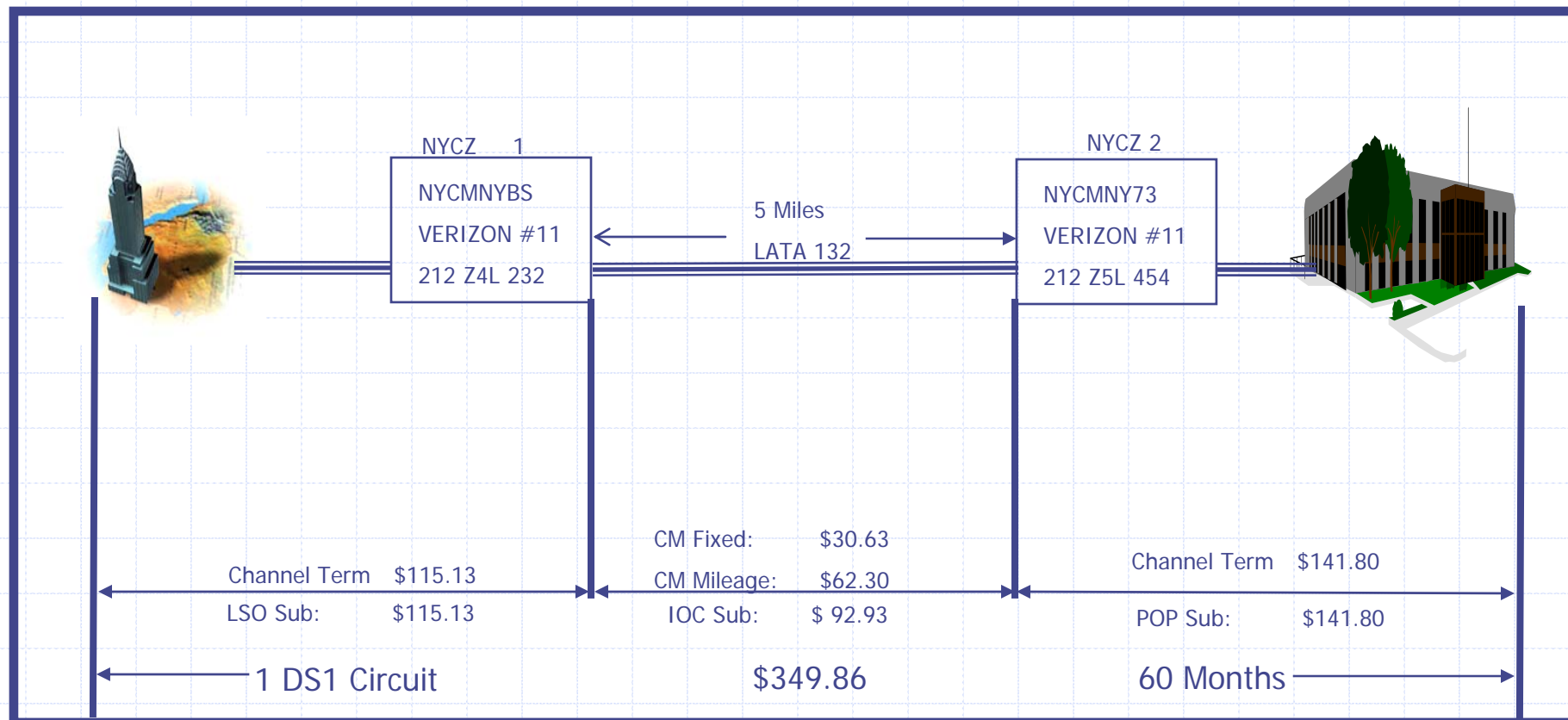
## Example of Special Access Alternatives To Provide Advanced Services



- A** Carrier purchases Special Access DS1s for end user services from Verizon
- B** DS1s aggregated to higher speed at the SWC
- C** Transport routed to Interoffice and to possible additional wire centers
- D** Transport routed to Verizon Serving Wire Center and Carrier POP Location
- E** Transport is aggregated to higher speed
- F** Carrier transport to Metro Ring and Premise Node or interLATA facilities



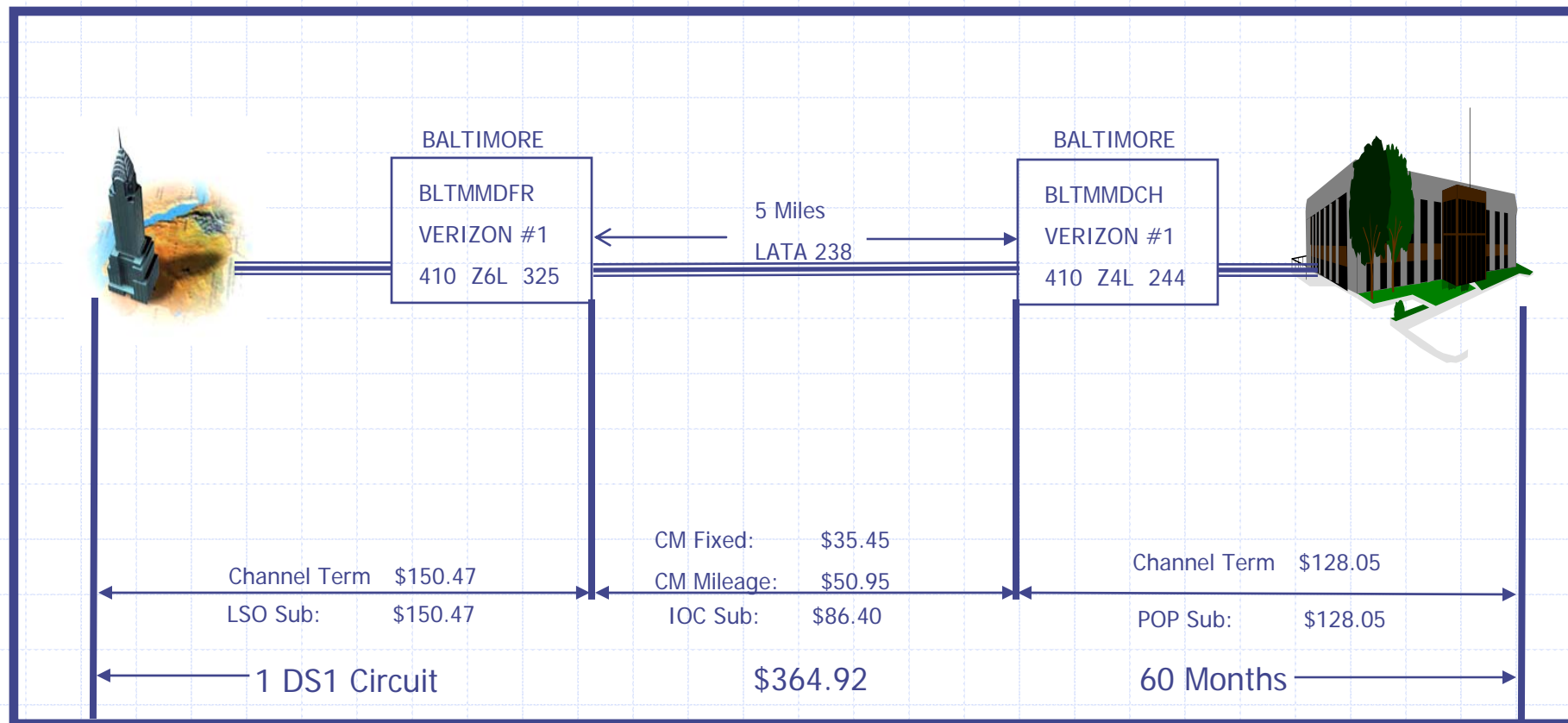
## SPECIAL ACCESS Pricing Example 1 (Verizon East-North)



Tariff Reference FCC 11; 31.7.9 (A)



## SPECIAL ACCESS Pricing Example 1 (Verizon East-South)

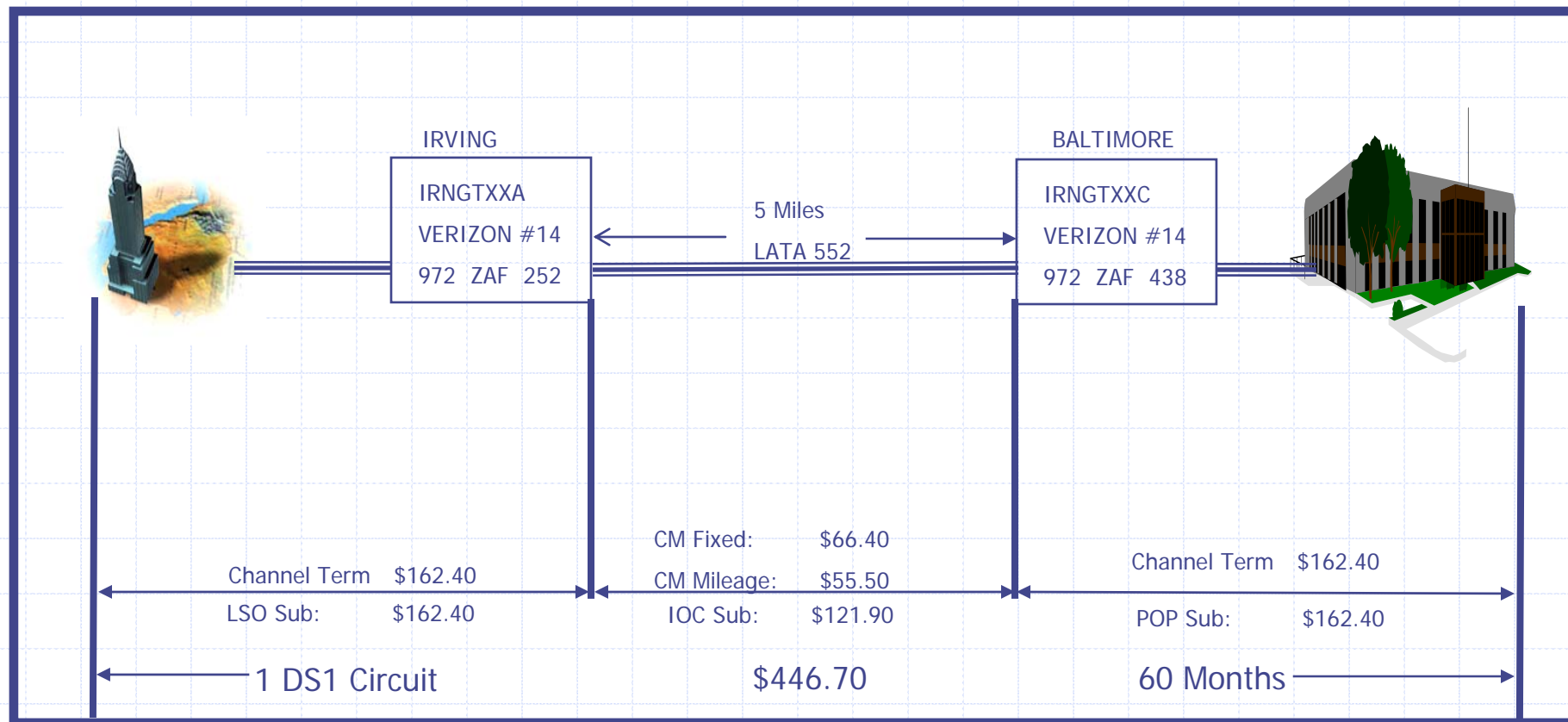


Tariff References: FCC 1;  
7.5.16 (C)





## SPECIAL ACCESS Pricing Example 1 (Verizon East-West)



Tariff References: FCC 14;  
5.7.18 (A), 5.7.7 (A)